~~1999~~ 2002 National Electrical Code and 2000 International Residential Code Modifications.

Chapter 1 – No changes

Chapter 2

Sec. ~~210-5~~ 210.5. Add subsection (C) to read:

(C) Ungrounded Conductors. Branch circuits shall conform to the following color code.

Volts	Phase	System	Phase A	Phase B	Phase C
120/208	3	WYE	Black	Red	Blue
277/480	3	WYE	Brown	Orange	Yellow
120/240	3	DELTA	Black	Orange	Red

Exception No. 1: The above color coding is not required in residential occupancies.

Exception No. 2: Industrial occupancies holding a Registered Plant Permit may use their own coding system.

Exception No. 3: Additions to an existing electrical system, where an acceptable color coding system exists, the existing color coding system shall be continued.

NEC Sec. ~~210-11(C)~~ 210.11(C). Add Item (4) to read:
IRC Sec. 3603. Add subsection E3603.7 to read:

IRC subsec. E3603.7 or NEC ~~(4)~~ 210.11(C)(4) Dishwasher and Garbage Disposer Branch Circuits-Dwelling Units. In residential occupancies, dishwasher and garbage disposer may be on the same 20-ampere branch circuit.

Sec. ~~220-37~~ 220.37. Add section to read:

Sec. ~~220-37~~ 220.37. Optional Calculation – Non-dwelling Unit Occupancies. The calculation of feeder or service load in non-dwelling unit occupancies shall be permitted to be calculated in accordance with Table ~~220-37~~ 220.37 in lieu of Part ~~D~~ II of this article. This section shall not apply to calculations performed under Sections ~~220-34~~ 220.34, 220.35, or ~~220-36~~ 220.36. Calculations for this section shall be prepared by a registered electrical engineer.

Table ~~220-37~~ 220.37. Add table to read:

Table ~~220-37~~ 220.37
Optional Method-Demand Factors for
Non-Dwelling Unit Occupancies

Connected Loads from Part ~~D~~ II, Article 220	**Demand Factors[1] (Percent)**
Connected load up to and including 800 amperes	100
Connected load over 800 amperes	90

Footnote:
[1]Other demand factors may be permitted at the discretion of the Building Official.

Sec. ~~225-32~~ 225.32. Add Exception No. 5:

Exception No. 5: For freestanding canopies, carports, towers, and similar structures, a branch circuit disconnecting means shall be permitted to be located elsewhere on the premises. A bonding conductor sized per Section ~~250-2(d) and 250-122~~ 250.122 shall be run with the circuit conductors.

Sec. ~~230-40~~ 230.40. Exception No. 1 is revised to read:

Exception No. 1: For multiple-occupancy buildings, not more than two groups of one to six disconnects shall be permitted to be tapped from a single service drop or set of service lateral conductors. When mounted in individual enclosures, the groups of one to six disconnects shall be separated by not less than two feet. When part of a manufactured gangable meter center (cable terminal box and meter/disconnect section bussed together), a readily identifiable separation shall exist between the two groups of one to six disconnects.

Sec. ~~230-40~~ 230.40. Delete Exception No. 4 in its entirety and renumber Exception No. 5 to Exception No. 4.

NEC Sec. ~~230-70(b)~~ 230.70(B) and IRC subsection E3501.6.1. Add two sentences to the subsection to read:

The markings shall be of sufficient durability to withstand the environment involved. Identifying labels required for disconnecting means shall have engraved or raised letters and be secured by screws or rivets (plastic tape shall not be considered durable material).

Sec. ~~230-90(a)~~ 230.90(A). Add Exception No. 6 to read:

Exception No. 6: For services conforming to Section ~~230-40~~ 230.40, Exception No. 1 only, not more than two groups of one to six circuit breakers or sets of fuses shall be

permitted as the overcurrent devices to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided the calculated load in accordance with Article 220 does not exceed the ampacity of the service conductors.

Sec. 240.24(B). Delete Exception No. 1 and Exception No. 2 and add a new Exception No. 1:

Exception No. 1: In a multiple-occupancy building where electric service supplies more than one occupancy and electrical maintenance is provided by the building management and where these are under continuous supervision by the building management or agent, the service overcurrent devices, feeder overcurrent devices and branch circuit overcurrent devices shall be permitted to be accessible to authorized personnel only.

~~NEC Sec. 250.404. Revise subsection (c) to read:~~
IRC subsection E3509.8. Revise subsection to read:

E3509.8. Bonding other metal piping. Where installed in or attached to a building or structure, metal piping system(s), including gas piping, that may become energized shall be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used. The bonding jumper(s) shall be sized in accordance with 250.122 using the rating of the circuit that may energize the piping system(s). The equipment grounding conductor for the circuit that may energize the piping shall be permitted to serve as the bonding means. The points of attachment of the bonding jumper(s) shall be accessible.

> FPN: Bonding all piping and metal air ducts within the premises will provide additional safety.

NEC Sec. ~~250-118~~ 250.118 and IRC subsection E3808.8. Delete items (5), (6), (7), and (8).

IRC Section E3802. Add new subsections E3802.9 and E3802.10 to read:

E3802.9. Definition. An arc-fault circuit interrupter is a device intended to provide protection from the effects of arc faults by recognizing characteristics unique to arcing and by functioning to de-energize the circuit when an arc fault is detected.

E3802.10. Dwelling Unit Bedrooms. All branch circuits that supply 125-volt, single-phase, 15- and 20-ampere outlets installed in dwelling unit bedrooms shall be protected by an arc-fault circuit interrupter listed to provide protection of the entire branch circuit.

Chapter 3

TABLE ~~310-5~~ 310.5. Revise Table ~~310-5~~ **310.5** to read:

Table ~~310-5~~ 310.5

Voltage Rating of Conductor - Volts	**Minimum Conductor Size - AWG**
0 through 2000	14 Copper 12 Copper-Clad Aluminum 8 Aluminum
2001 through 8000	8
8001 through 15000	2
15001 through 28000	1
28001 through 35000	1/0

Sec. ~~339-3(a)~~ 340.10 – add item ~~(7)~~ (8) to read:

(8) Type UF Cable shall be permitted to be used in mortar joints of burnt and “mud” adobe construction in occupancies where the use of nonmetallic cable is permitted by this code.

Sec. ~~350-14~~ 348.60 Revised to read:

Flexible metal conduit shall not be permitted as a grounding means. An equipment grounding conductor, sized in accordance with Table 250.122, shall be installed in all flexible metal conduit. Where an equipment bonding jumper is requird around flexible metal conduit, it shall be installed in accordance with Section 250.102.

Sec. ~~351-23(b)~~ 350.10 add item ~~(5)~~ (4) to read:

(4) for feeders.

Sec. ~~351-9~~ 350.60 revise section and exception to read:

Liquidtight flexible metal conduit shall not be permitted as a grounding conductor. A conductor (as determined by Table 250.122) shall be installed in all liquid tight flexible metal conduit. Where an equipment bonding jumper is required around liquidtight flexible metal conduit, it shall be installed in accordance with Section 250.102.

Sec. ~~347-3~~ 352.12 – Add subsection (G) and exception to read:

(G) Exterior locations where exposed in exterior locations.

Exception: Schedule 80 PVC may be used exposed out of doors.

1.

Chapter 4

Note that these amendments replace all of the chapter 4 amendments for the 1999 NEC.

NEC Sec. 410.16 (C). Revise subsection (C) to read:

(C) Suspended Ceilings. Framing members of suspended ceiling systems used to support luminaires (fixtures) shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Luminaires (fixtures) shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing members(s) and luminaire(s) [fixtures] shall also be permitted.

1. Mount luminaires (fixtures) installed in acoustical tile or lay-in panel ceilings in a manner that will not compromise ceiling performance.

2. Luminaires (fixtures) shall not be supported from main runners or cross runners if the weight of the fixture causes the total dead load to exceed the deflection capability of the ceiling suspension system. In such cases, the luminaire (fixture) load shall be supported by supplemental hangers within 152mm (6 in.) of each corner or the fixture shall be separately supported.

3. Luminaires (fixtures) shall not be installed so that main runners or cross runners will be eccentrically loaded except where provision is inherent in the system (or is separately provided for) to prevent undesirable section rotation or displacement, or both. In any case, runners supporting ceiling fixtures shall not rotate more than 2º after the fixture loads are imposed.

4. Where luminaire (fixture) installation would produce rotation of runners in excess of 2º, install luminaires (fixtures) with the use of suitable accessory devices. These devices shall support the fixture in such a manner that main runners and cross runners will be loaded symmetrically rather than eccentrically.

5. Pendant luminaire (fixture) hangers attached to main or cross runners shall have approved support direct from structure.

In addition to the above requirements, luminaires (fixtures) weighing less than 25.5kg (56 pounds) shall have two No. 12 gage hangers connected from the luminaire (fixture) housing to the structure above. These wires may be slack. Luminaires (fixtures) weighing over 25.5kg (56 pounds) shall be supported directly from structure with approved hangers.

NEC Sec. 422.12 and IRC subsec. E3603.1. Add sentence to the end of the paragraph to read:

Evaporative cooler fan and pump motors shall be permitted to be connected to the same branch circuit as central heating equipment when the controls do not permit the evaporative cooler and the central heating to operate at the same time or the air distribution system is designed to not have the evaporative cooler and the central heating equipment operating at the same time.

NEC Sec. 440.65. Delete section in its entirety.

Chapter 5

Sec. 501-16(b). Delete Exception, including a, b, and c.
501.16(B). Delete Exception, including (a), (b), and (c)

Sec. 502-1. Renumber FPN to FPN No. 1, and add FPN No. 2 to read:
Delete this amendment in its entirety

(FPN No. 2): The following is a guideline for a Small Woodworking Facility.

1. Complete U.L. listed Dust Collection System, interlocked with dust producing equipment.

2. Light fixtures below 12' shall be of the enclosed type.

3. Boxes shall be "Bell" or "FS" type with threaded hubs and gasketted covers.

4. Wiring methods shall be EMT with compression fittings.

5. Requirements extend in a 10' radius from each dust producing piece of equipment.

6. Seal any openings in boxes or electrical equipment to prevent the intrusion of dust. (NOTE: See * Below)

7. See N.E.C. 500-8(b), FPN No: 1
   See N.E.C. 500.5(C)(2) FPN No: 1 {revise if retained for 2002}

- DO NOT VOID U.L. LISTING BY SEALING DESIGNED HEAT VENTS

Sec. 502-16(b). Delete Exception, including a, b, and c.
Sec. 502.16(B). Delete Exception, including (a), (b) and (c)

Sec. 503-16(b). Delete Exception, including a, b, and c.
Sec. 503.16(B). Delete Exception, including (a), (b) and (c)

Chapter 6: Special Equipment

The subcommittee members agree to accept Chapter 6 as written.

Regarding the 2002 International Residential Code, Part VIII-Electrical, Chapter 41 Swimming Pools, Section E4103.3 disconnecting means to be reworded exactly as it is in the 2002 National Electrical Code.

IRC E4103.3 is based on the 1999 NEC Article 680-12 which has a typographical error. As written, the requirement could be interpreted as requiring the pool equipment disconnect to be within sight of the pool. The intent is for the disconnect to be within site of the pool equipment, not the pool itself.

This error is corrected in the 2002 NEC, Article 680.12 which states: "One or more means to disconnect all ungrounded conductors shall be provided for all utilization equipment other than lighting. Each means shall be accessible and within sight from its equipment."

We suggest an amendment to IRC E4103.3 which replaces the current text with text from 2002 NEC 680.12.

Chapter 7

NEC Sec. 725-9. Add section to read:
NEC Sec. 725.11. Add section to read:
IRC Sec. E4202 Add subsection E4202.3 to read:

NEC Sec.725-9. and IRC subsec. E4202.3 Location of Power Supplies and Transformers.
NEC Sec. 725.11 and IRC subsec. E4202.3 Location of Power Supplies and Transformers.

(a) Accessibility. Class 1, Class 2 and Class 3 power supplies and transformers shall be accessible.

(b) Prohibited locations.

In clothes closet storage space as described in NEC Section 410-8 or IRC E3903.11
In clothes closet storage space as described in NEC Section 410.8(A) or IRC E3903.11

2) In attics or other space subject to high ambient temperatures.